CLAIMS

We Claim:

1. A method comprising:
    a) filtering a sample containing bacteria and yeast through at least one filter;
    b) treating the filter or filters with a medium which facilitates the growth of the bacteria and yeast;
    c) growing the bacteria and yeast on the filter or filters to thereby produce colonies or microcolonies of the bacteria and yeast;
    d) fixing the colonies or microcolonies to the filter or filters;
    e) treating each filter with one or more enzyme labeled PNA probes under suitable hybridization conditions;
    f) removing excess enzyme labeled PNA probe from each of the filters;
    g) determine enzyme activity remaining on each filter to thereby identify or enumerate colonies or microcolonies on the filter or filters.

2. The method of claim 1, wherein identification or enumeration of the colonies or microcolonies depends upon relative growth rate.

3. The method of claim 1, wherein identification or enumeration of the colonies or microcolonies depends upon colony morphology.

4. The method of claim 1, wherein one filter is used to identify or enumerate at least one bacteria and at least one yeast.

5. The method of claim 1, wherein two or more filters are used; at least one filter for each organism to be identified or enumerated.

6. The method of claim 1, wherein two or more enzyme labeled PNA probes are used; at least one PNA probe for each organism to be determined.

7. The method of claim 1, wherein the enzyme labeled PNA probe is a soy bean peroxidase labeled PNA probe.

8. The method of claim 1, wherein the enzyme labeled PNA probe is an orthogonally labeled PNA probe comprising both a fluorophore and enzyme.